D0077 NP

Figure 1A

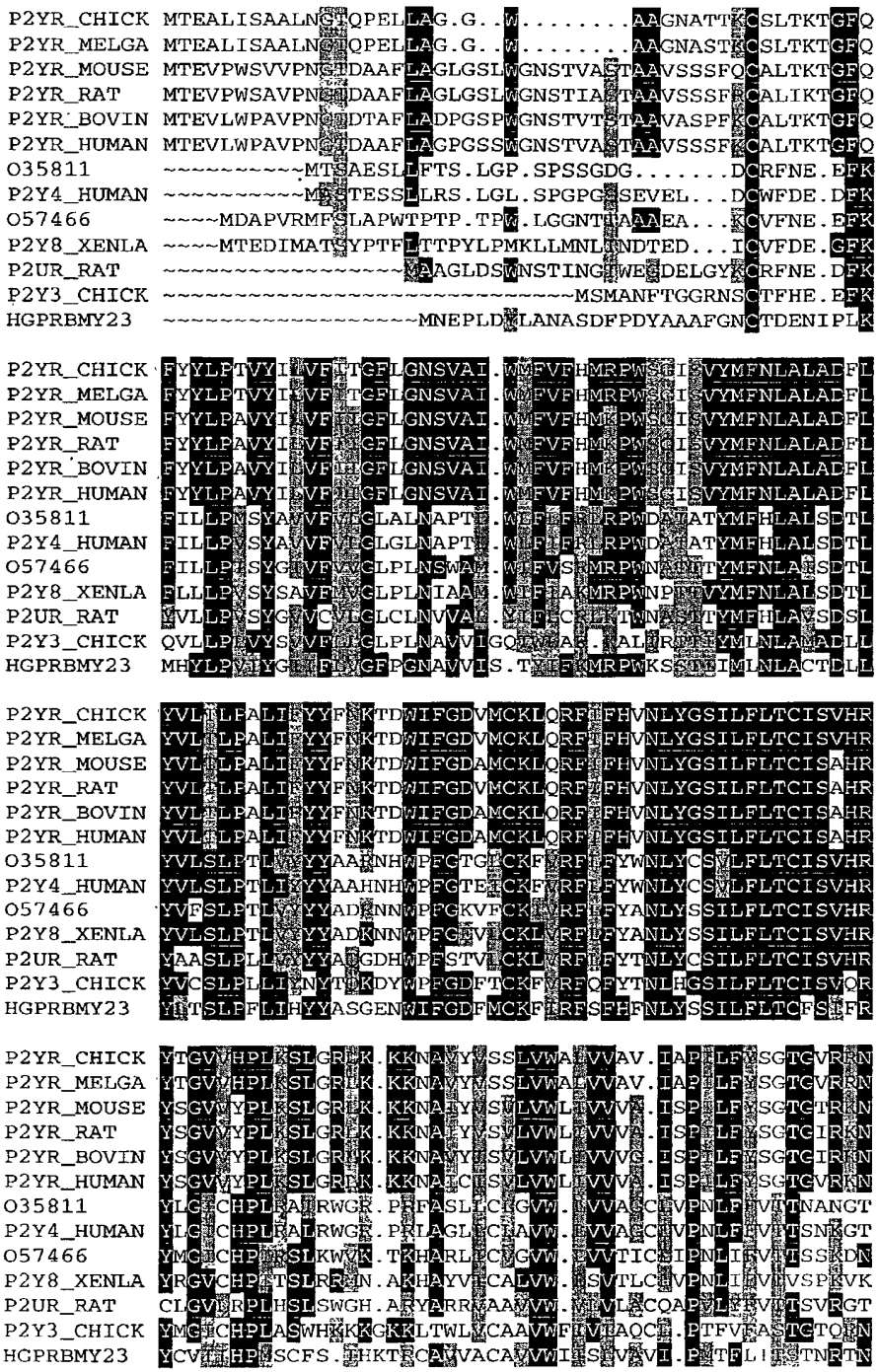
```
  1  CATATTGCCAAACTGAACTCTCTTGTTTCTTGCAAGATGAAAGGAGACAACCATGAATG    60
  1                                                    M  N  E     3

 61  AGCCACTAGACTATTTAGCAAATGCTTCTGATTTCCCCGATTATGCAGCTGCTTTTGGAA  120
  4   P  L  D  Y  L  A  N  A  S  D  F  P  D  Y  A  A  A  F  G  N   23

121  ATTGCACTGATGAAAACATCCCACTCAAGATGCACTACCTCCCTGTTATTTATGGCATTA  180
 24   C  T  D  E  N  I  P  L  K  M  H  Y  L  P  V  I  Y  G  I  I   43

181  TCTTCCTCGTGGGATTTCCAGGCAATGCAGTAGTGATATCCACTTACATTTTCAAAATGA  240
 44   F  L  V  G  F  P  G  N  A  V  V  I  S  T  Y  I  F  K  M  R   63

241  GACCTTGGAAGAGCAGCACCATCATTATGCTGAACCTGGCCTGCACAGATCTGCTGTATC  300
 64   P  W  K  S  S  T  I  I  M  L  N  L  A  C  T  D  L  L  Y  L   83

301  TGACCAGCCTCCCCTTCCTGATTCACTACTATGCCAGTGGCGAAAACTGGATCTTTGGAG  360
 84   T  S  L  P  F  L  I  H  Y  Y  A  S  G  E  N  W  I  F  G  D  103

361  ATTTCATGTGTAAGTTTATCCGCTTCAGCTTCCATTTCAACCTGTATAGCAGCATCCTCT  420
104   F  M  C  K  F  I  R  F  S  F  H  F  N  L  Y  S  S  I  L  F  123

421  TCCTCACCTGTTTCAGCATCTTCCGCTACTGTGTGATCATTCACCCAATGAGCTGCTTTT  480
124   L  T  C  F  S  I  F  R  Y  C  V  I  I  H  P  M  S  C  F  S  143

481  CCATTCACAAAACTCGATGTGCAGTTGTAGCCTGTGCTGTGGTGTGGATCATTTCACTGG  540
144   I  H  K  T  R  C  A  V  V  A  C  A  V  V  W  I  I  S  L  V  163

541  TAGCTGTCATTCCGATGACCTTCTTGATCACATCAACCAACAGGACCAACAGATCAGCCT  600
164   A  V  I  P  M  T  F  L  I  T  S  T  N  R  T  N  R  S  A  C  183

601  GTCTCGACCTCACCAGTTCGGATGAACTCAATACTATTAAGTGGTACAACCTGATTTTGA  660
184   L  D  L  T  S  S  D  E  L  N  T  I  K  W  Y  N  L  I  L  T  203

661  CTGCAACTACTTTCTGCCTCCCCTTGGTGATAGTGACACTTTGCTATACCACGATTATCC  720
204   A  T  T  F  C  L  P  L  V  I  V  T  L  C  Y  T  T  I  I  H  223

721  ACACTCTGACCCATGGACTGCAAACTGACAGCTGCCTTAAGCAGAAAGCACGAAGGCTAA  780
224   T  L  T  H  G  L  Q  T  D  S  C  L  K  Q  K  A  R  R  L  T  243

781  CCATTCTGCTACTCCTTGCATTTTACGTATGTTTTTTACCCTTCCATATCTTGAGGGTCA  840
244   I  L  L  L  L  A  F  Y  V  C  F  L  P  F  H  I  L  R  V  I  263
```

D0077 NP

Figure 1B

```
841   TTCGGATCGAATCTCGCCTGCTTTCAATCAGTTGTTCCATTGAGAATCAGATCCATGAAG   900
264    R  I  E  S  R  L  L  S  I  S  C  S  I  E  N  Q  I  H  E  A    283

901   CTTACATCGTTTCTAGACCATTAGCTGCTCTGAACACCTTTGGTAACCTGTTACTATATG   960
284    Y  I  V  S  R  P  L  A  A  L  N  T  F  G  N  L  L  L  Y  V    303
             ----------------------------------------------------

961   TGGTGGTCAGCGACAACTTTCAGCAGGCTGTCTGCTCAACAGTGAGATGCAAAGTAAGCG   1020
304    V  V  S  D  N  F  Q  Q  A  V  C  S  T  V  R  C  K  V  S  G    323
       ----

1021  GGAACCTTGAGCAAGCAAAGAAAATTAGTTACTCAAACAACCCTTGAAATATTTCATTTA   1080
324    N  L  E  Q  A  K  K  I  S  Y  S  N  N  P                      337

1081  C  1081
```

Figure 2A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P2YR_MELGA
P2YR_MOUSE
P2YR_RAT
P2YR_BOVIN
P2YR_HUMAN
O35811
P2Y4_HUMAN
O57466
P2Y8_XENLA
P2UR_RAT
P2Y3_CHICK
HGPRBMY23

Figure 2B

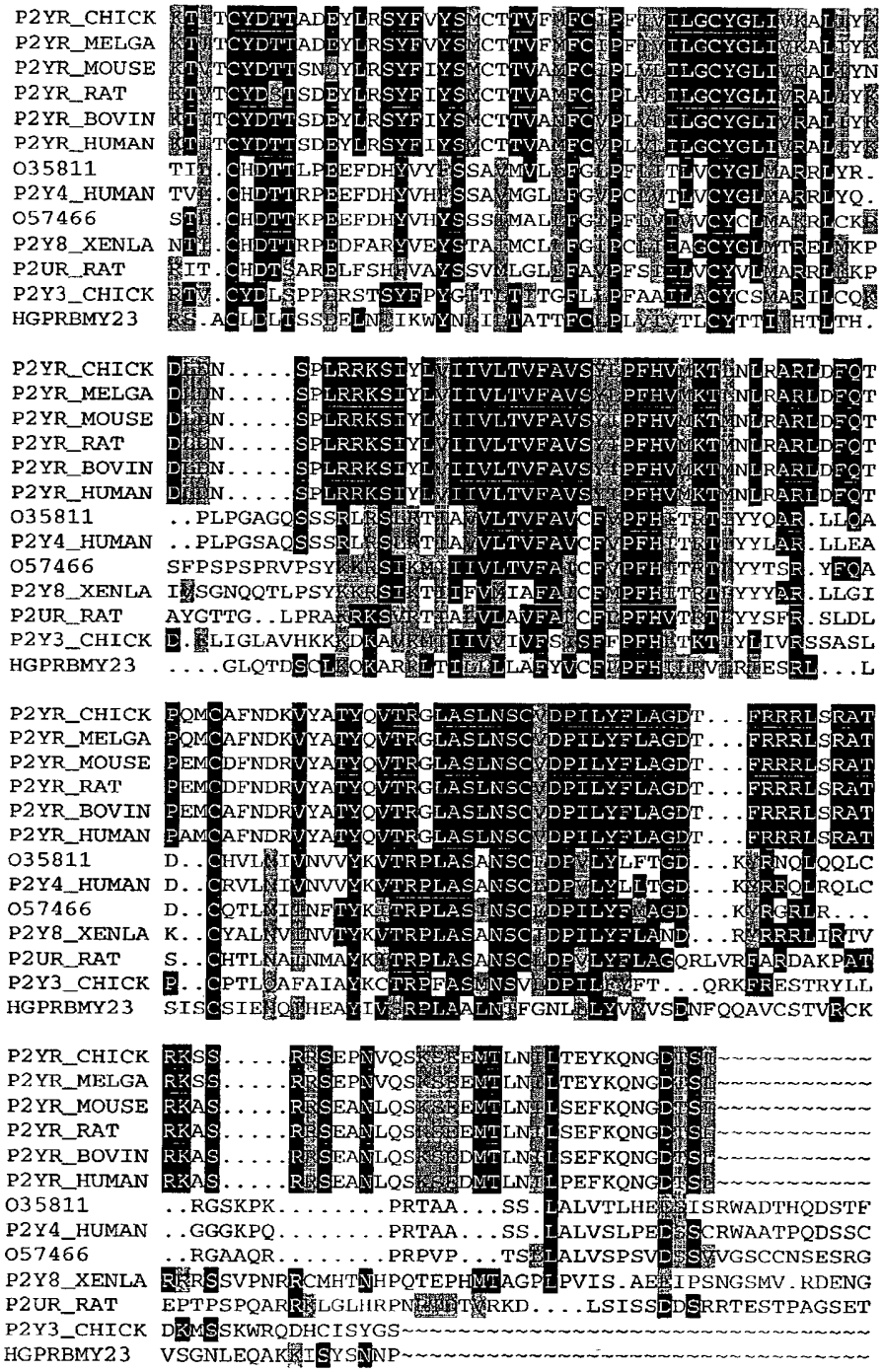

P2YR_CHICK
P2YR_MELGA
P2YR_MOUSE
P2YR_RAT
P2YR_BOVIN
P2YR_HUMAN
O35811
P2Y4_HUMAN
O57466
P2Y8_XENLA
P2UR_RAT
P2Y3_CHICK
HGPRBMY23

Figure 2C

```
P2YR_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MELGA  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MOUSE  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_RAT    ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_BOVIN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_HUMAN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O35811      SAYEGDRL~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y4_HUMAN  STPRADRL~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O57466      MGTVWSRGGQ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y8_XENLA  EGSREHRVEWTDTKEINQMMNRRSTIKRNSTDKNDMKENRHGENYLPYVE
P2UR_RAT    KDIRL~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y3_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
HGPRBMY23   ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

P2YR_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MELGA  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MOUSE  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_RAT    ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_BOVIN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_HUMAN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O35811      ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y4_HUMAN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O57466      ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y8_XENLA  VVEKEDYETKRENRKTTEQSSKTNAEQDELQTQIDSRLKRGKWQLSSKKG
P2UR_RAT    ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y3_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
HGPRBMY23   ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

P2YR_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MELGA  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_MOUSE  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_RAT    ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_BOVIN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2YR_HUMAN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O35811      ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y4_HUMAN  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
O57466      ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y8_XENLA  AAQENEKGHMEPSFEGEGTSTWNLLTPKMYGKKDRLAKNVEEVGYGKEKE
P2UR_RAT    ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
P2Y3_CHICK  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
HGPRBMY23   ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

P2YR_CHICK  ~~~~~~~
P2YR_MELGA  ~~~~~~~
P2YR_MOUSE  ~~~~~~~
P2YR_RAT    ~~~~~~~
P2YR_BOVIN  ~~~~~~~
P2YR_HUMAN  ~~~~~~~
O35811      ~~~~~~~
P2Y4_HUMAN  ~~~~~~~
O57466      ~~~~~~~
P2Y8_XENLA  LQNFPKA
P2UR_RAT    ~~~~~~~
P2Y3_CHICK  ~~~~~~~
HGPRBMY23   ~~~~~~~
```

Figure 3

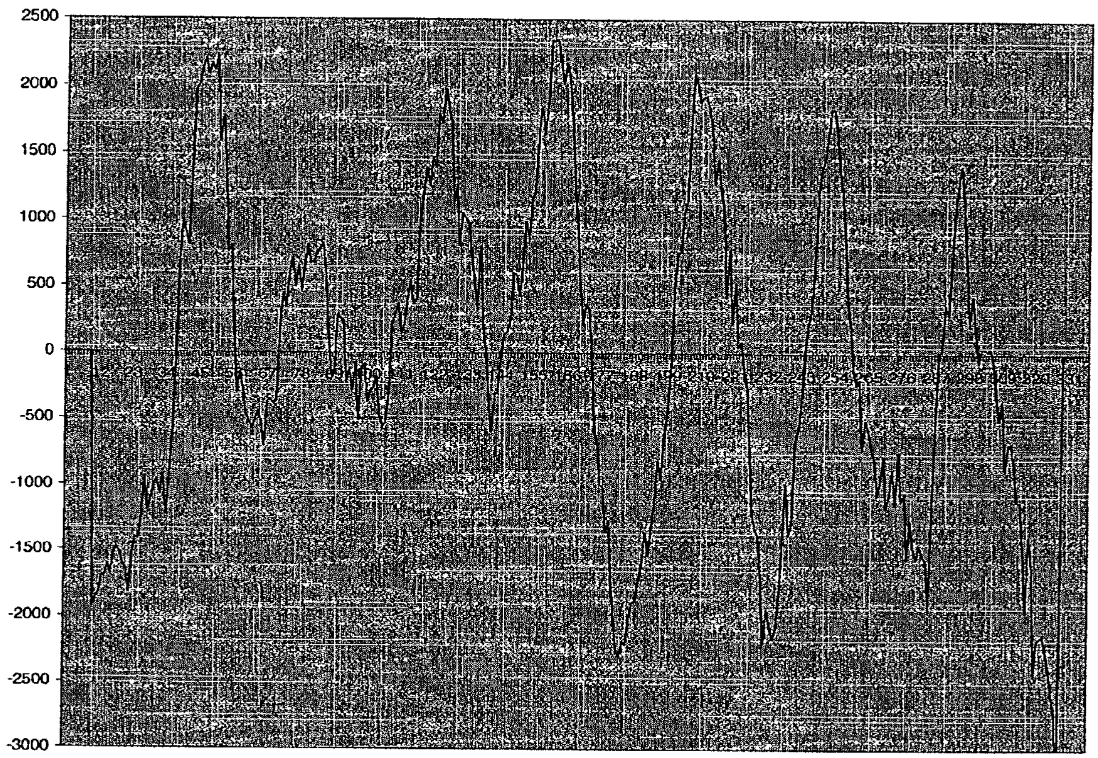


Figure 4

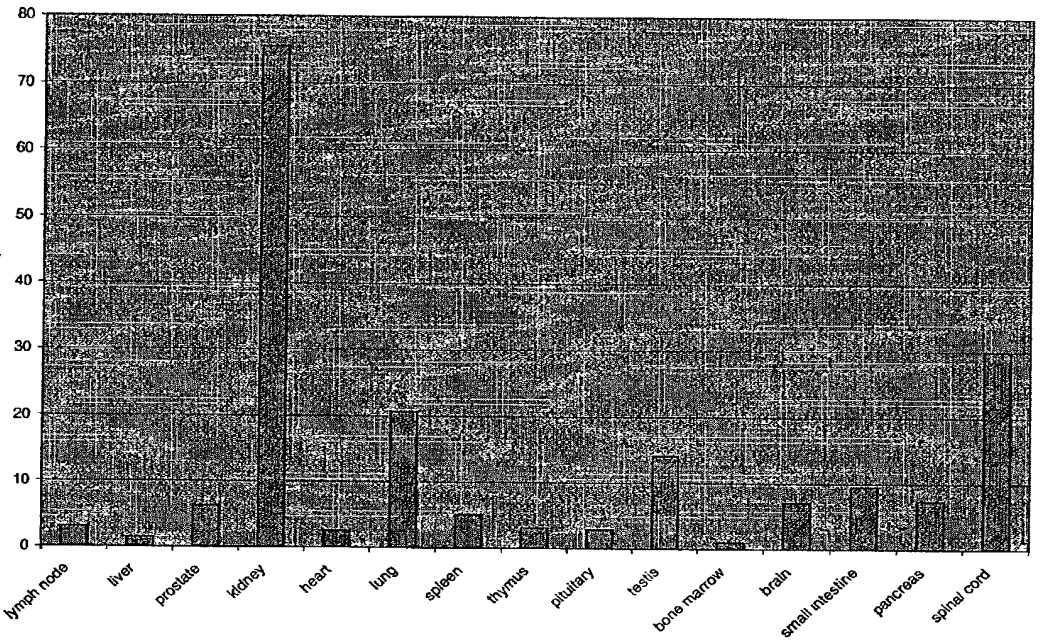
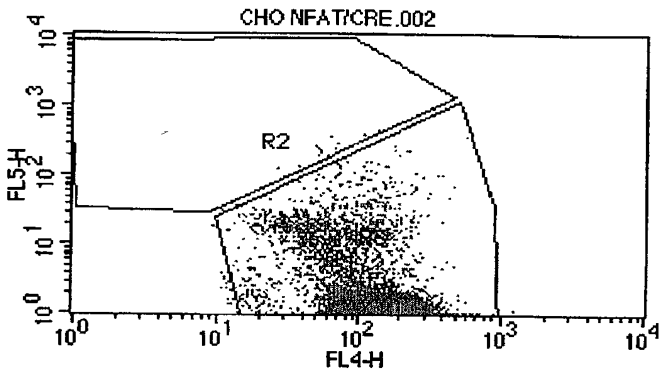

80
70
60
50
40
30
20
10
0
lymph node
liver
prostate
kidney
heart
lung
spleen
thymus
pituitary
testis
bone marrow
brain
small intestine
pancreas
spinal cord

Figure 5.

Protein	SWISS-PROT ACCESSION No	Identities	Similarities
Chick purinergic receptor	P34996	36%	46%
Turkey purinergic receptor	P49652	36%	46%
Mouse purinergic receptor	P49650	36%	45%
Rat purinergic receptor	P49651	36%	45%
Bovine purinergic receptor	P48042	35%	46%
African clawed frog P2Y purinoceptor 8	P79918	35%	46%
Chick P2Ypurinoceptor 3	Q98907	35%	45%
Human purinergic receptor	P47900	34%	45%
Turkey G-protein coupled P2Y nucleotide receptor	O57466	34%	44%
Human uridine nucleotide receptor	P51582	32%	40%
Rat G-protein coupled receptor	O35811	31%	41%
Rat P2U purinergic receptor	P41242	30%	40%

Figure 6.



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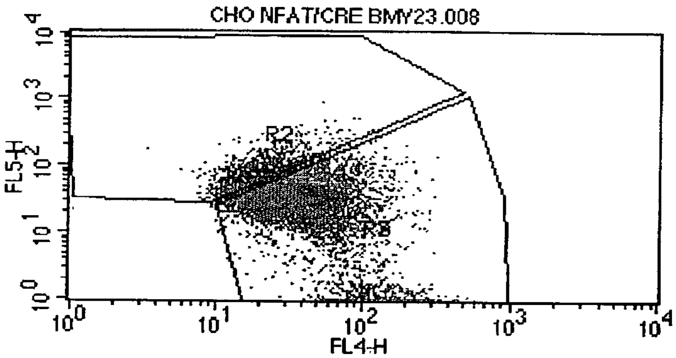


Figure 8.

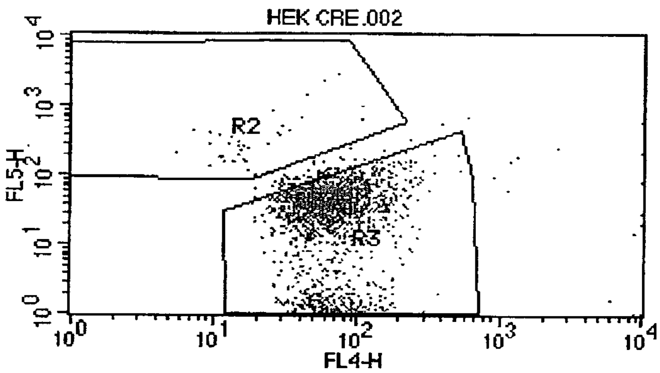


Figure 9.

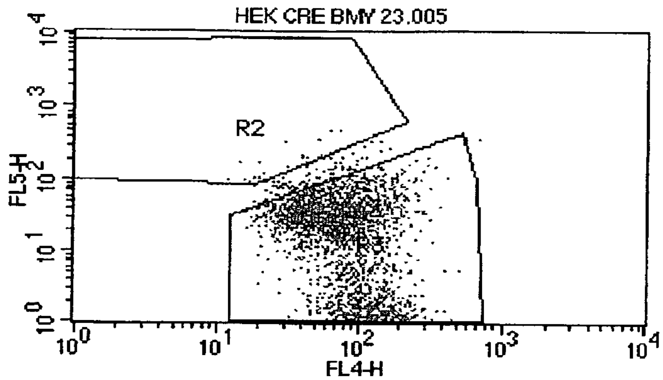


Figure 10.

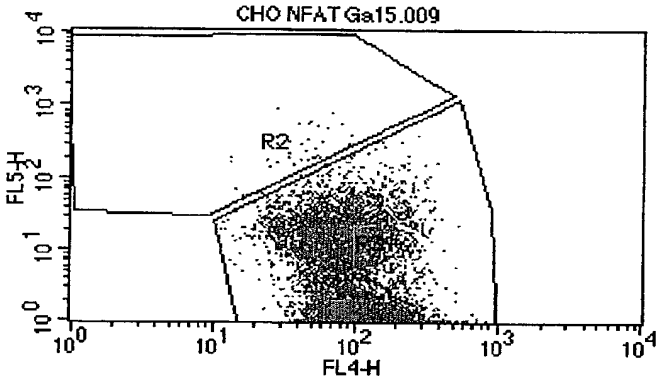


Figure 11.

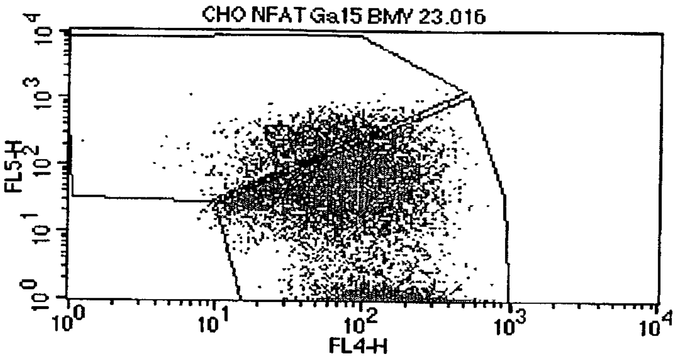
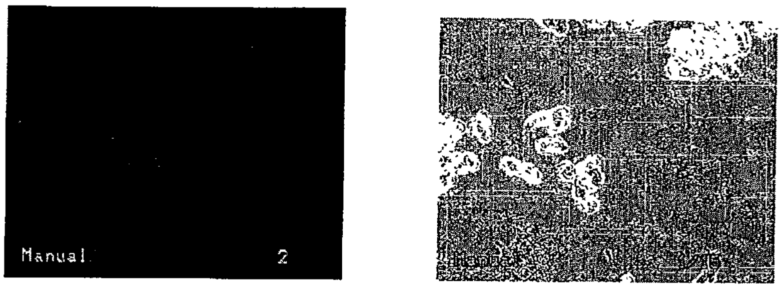


Figure 12.

Cho NFAT Ga15 Control (Fluorescent vs. Bright Field)



Cho NFAT Ga15 BMY23 (Fluorescent vs. Bright Field)

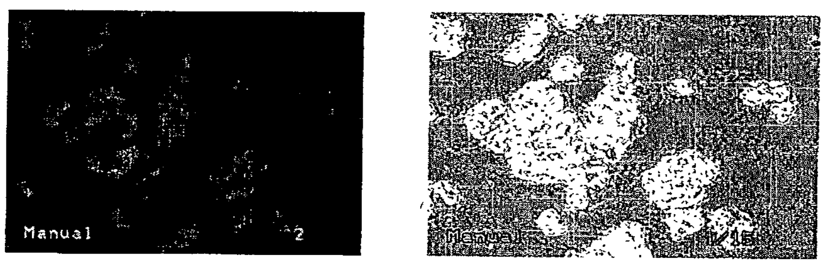
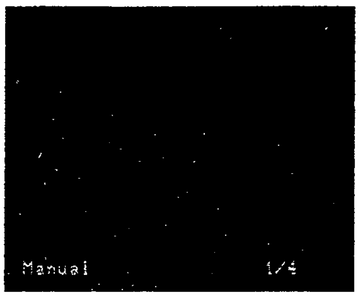
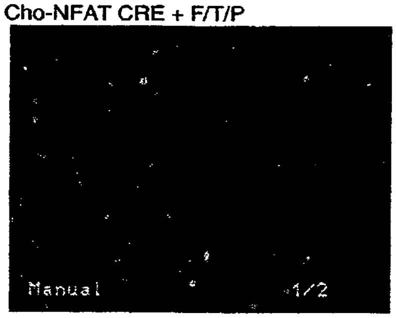


Figure 13.

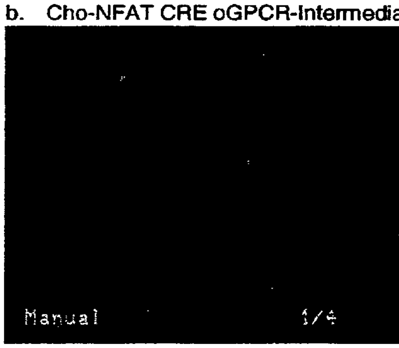
a. Cho-NFAT CRE



b. Cho-NFAT CRE + F/T/P



b. Cho-NFAT CRE oGPCR-Intermediate



d. Cho-NFAT CRE oGPCR High